IN THE CLAIMS:

Please cancel claims 1, 5, 7, 9, 11, 12, 14, 18, 20, 22, 25, 28, 29, 31, 32, and 34 without prejudice.

A marked up version of the replacement claims is attached hereto as Exhibit C. Matter that has been deleted from claims 2, 6, 8, 10, 15 to 17, 19, 21, 23, 27, 30, 33, 35, and 36 is bracketed and matter that has been added is indicated by underlining.

Please amend claims 2, 6, 8, 10, 15 to 17, 19, 21, 23, 27, 30, 33, 35, and 36 to read as follows:

A22

2. (amended) A molecule comprising a peptide which mimics the binding specificity of an antibody, which peptide is identified by a method comprising:

(a) screening a first random peptide library with an antibody or antigen-binding derivative thereof that specifically binds to an antigen of interest, to identify a first peptide that specifically binds to said antibody or antigen-binding derivative thereof; and

(b) screening a second random peptide library which is the same or different from said first random peptide library with a compound comprising said first peptide identified in step (a) or a specific binding portion thereof, to identify a second peptide which binds to said compound and which mimics the binding specificity of said antibody.

A23

6. (amended) A molecule comprising a peptide which mimics the binding specificity of an antibody, which peptide is identified by a method comprising:

(a) screening a first random peptide library with an antibody or antigen-binding derivative thereof, to identify a plurality of different first peptides each of which specifically binds to said antibody or antigen-binding derivative thereof;

(b) comparing the sequences of said plurality of different first peptides identified as binding said antibody or antigen-binding derivative thereof in step (a), to identify a consensus binding

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(c) sequence; and

screening a second random peptide library which is the same or different from said first random peptide library with a compound comprising said consensus binding sequence, to identify a second peptide which binds to said compound and which mimics the binding specificity of said antibody.

A24

8. (amended) The molecule of claim 2 in which the antibody is the monoclonal antibody 7E11-C5 which is a murine IgG1 monoclonal antibody which binds specifically to human prostate carcinoma cell line LNCaP, as produced by the hybridoma deposited with the ATCC and assigned accession number HB 10494.

A25

10. (amended) The molecule of claim 2 in which the library of step (a) or step (b) is a library of recombinant vectors that express a plurality of heterofunctional fusion proteins comprising random peptides, said fusion proteins comprising a binding domain encoded by an oligonucleotide comprising unpredictable nucleotides in which the unpredictable nucleotides are arranged in one or more contiguous sequences, wherein the total number of unpredictable nucleotides is greater than or equal to about 15 and less than or equal to about 600, and an effector domain that enhances expression or detection of the binding domain.

A26

15. (amended) A method of identifying a peptide which mimics the binding specificity of an antibody, which method comprises:

(a) screening a first random peptide library with an antibody or antigen-binding derivative thereof that specifically binds to an antigen of interest, and thereby identifying a first peptide that specifically binds to said antibody or antigen-binding derivative thereof; and

(b) screening a second random peptide library which is the same or different from said first random peptide library with a compound comprising said first peptide identified in step (a) or a specific binding portion thereof, and thereby identifying a

A26 cont

second peptide which binds to said compound and which mimics the binding specificity of said antibody.

A27

16. (amended) The method of claim 15, in which said first random peptide library is a different library from said second random peptide library.

17. (amended) The method of claim 15, in which said first random peptide library is the same library as said second random peptide library.

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19. (amended) The method of claim 15 in which the antibody is the monoclonal antibody 7E11-C5 which is a murine IgG1 monoclonal antibody which binds specifically to human prostate carcinoma cell line LNCaP, as produced by the hybridoma deposited with the ATCC and assigned accession number HB 10494.

A29

21. (amended) The method of claim 15 in which the library of step (a) or step (b) is a library of recombinant vectors that express a plurality of heterofunctional fusion proteins, said fusion proteins each comprising (a) a random peptide comprising a binding domain encoded by an oligonucleotide comprising unpredictable nucleotides in which the unpredictable nucleotides are arranged in one or more contiguous sequences, wherein the total number of unpredictable nucleotides is greater than or equal to about 15 and less than or equal to about 600, and (b) an effector domain that enhances expression or detection of the binding domain.

A30

23. (amended) A method of detecting or measuring an analyte of interest in a sample, comprising:

(a) contacting a sample with a molecule comprising a peptide capable of specifically binding said analyte of interest under conditions such that specific binding between said molecule and said analyte can occur; and

(b) detecting or measuring the amount of said binding in which the presence and amount of said binding indicates the presence and amount, respectively, of said analyte in the sample;

in which said peptide is identified by the method of claim 15.

27. (amended) A composition comprising the molecule of claim 2; and a carrier.

30. (amended) A composition comprising the molecule of claim 8; and a carrier.

33. (amended) A molecule comprising a peptide or a binding portion thereof which mimics the binding specificity of a receptor molecule, which peptide is identified by a method comprising: screening a random peptide library with a ligand of interest, said ligand of interest being a peptide having a length of between 5 and 40 amino acids, to identify a peptide that specifically binds to the ligand of interest, in which the ligand of interest is also specifically bound by an antibody.

35. (amended) A method of obtaining an image of an internal region of a subject, wherein said internal image is of a tumor, comprising administering to said subject an effective amount of the molecule of claim 2, wherein said molecule specifically targets said tumor, in which said molecule is radiolabeled with a radioactive metal, and recording the scintigraphic image obtained from the decay of said radioactive metal.

36. (amended) A molecule comprising a peptide which mimics the binding specificity of an antibody, which peptide is identified by a method comprising: screening a random peptide library with a ligand, said ligand being a peptide of 36 amino acids or fewer, in which the ligand is an epitope of an antigen that is specifically bound by said antibody or in which the ligand represents the portion of a receptor-ligand that is responsible for the specific binding of the receptor to the receptor-ligand.

Please add the following new claim:

46. (new) A method for identifying a peptide which mimics the binding specificity of an antibody, which method comprises: screening a second random peptide library with a compound comprising a first peptide identified by screening a first random